

WHAT IS CLAIMED IS:

1. A method for measuring fluorescence emitted
from samples on a measuring surface of a substrate by
illuminating said samples with excitation light,
5 characterized in that

an excitation light illumination portion and a
light detecting portion are placed in such a manner as
to make it possible to prevent said excitation light
from approaching said light detecting portion where
10 measurements are made of said fluorescence, and

the fluorescence emitted from the samples is
measured relatively moving said samples or the
measuring surface of said substrate from said
excitation light illumination portion to said light
15 detecting portion after illuminating said samples with
said excitation light.

2. The method according to claim 1, wherein the
relative movement of the samples forms a circular orbit
20 on said measuring surface of said substrate.

3. The method according to claim 2, wherein the
circular orbit is formed while forming rotational plane
of said measuring surface by rotating said substrate
25 around the axis perpendicular to said measuring surface
of said substrate.

4. The method according to claim 3, wherein said excitation light illumination portion and said light detecting portion are moved relative to said rotational plane of said measuring surface.

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5. The method according to claim 2, wherein the rotational movement of said excitation light illumination portion and said light detecting portion forms the circular orbit on said measuring surface.

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6. The method according to claim 2, wherein said samples are liquid filled in the cells formed on said substrate.

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7. The method according to claim 2, wherein said samples are substances attached, adsorbed onto, or trapped in said substrate.

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8. The method according to claim 2, wherein said samples are DNA.

9. The method according to claim 2, wherein said samples are protein.

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10. The method according to claim 2, wherein said samples are peptide nucleic acid.

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11. The method according to claim 2, wherein said samples are fixed on probes arranged on said substrate.

5 12. The method according to claim 11, wherein said probes are DNA.

13. The method according to claim 11, wherein said probes are protein.

10 14. The method according to claim 11, wherein said probes are peptide nucleic acid.

15 15. The method according to claim 1, wherein said spacing between said excitation light illumination position and said light detecting portion is variable and the period from the illumination of excitation light to the detection of fluorescence is properly adjustable.

20 16. The method according to claim 1, wherein the moving speed of said samples is variable and the period from the illumination of excitation light to the detection of fluorescence is properly adjustable by varying said moving speed.

25 17. The method according to claim 2, wherein said samples on said measuring surface of said substrate are

arranged on more than one circles or on the arcs
thereof which are concentric with the central axis of
said substrate and are different in radius from each
other, the samples at the same distance from the
5 central axis having the same or similar attributes and
forming a group which can be discriminated from the
other groups of samples.

18. A substrate applied to the method according
10 to claim 2, comprising samples subjected to
fluorescence measurement on a measuring surface
thereof, characterized in that

the samples being arranged on more than one
circles or the arcs thereof which are concentric with
15 the central axis of the substrate and are different in
radius from each other, and the samples at the same
distance from the central axis having the same or
similar attributes and forming a group which can be
discriminated from the other groups of samples.

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19. A fluorometric device comprising an
excitation light illumination portion where samples on
a measuring surface of a substrate are illuminated with
excitation light and a light detecting portion where
25 measurements of the fluorescence emitted from the
samples is performed, characterized in that

said excitation light illumination portion and

said light detecting portion are placed in such a manner as to make it possible to prevent said excitation light from approaching said light detecting portion, and

5 a means is provided for relatively moving the samples on the measuring surface of said substrate from said excitation light illumination portion to said light detecting portion.

10 20. The fluorometric device according to claim 19, wherein said means for relatively moving said samples is such that it moves said substrate having said samples placed thereon relative to said excitation light illumination portion and said light detecting
15 portion while allowing the same to form a circular orbit on said measuring surface.

20 21. The fluorometric device according to claim 20, wherein said means for relatively moving the samples while allowing the same to form a circular orbit on said measuring surface is such that it forms a rotational plane of said measuring surface of said substrate by rotating said substrate around an axis perpendicular to said measuring surface.

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22. The fluorometric device according to claim 21, comprising means for moving both said excitation

light illumination portion and said light detecting portion relative to said rotational plane of said measuring surface.

5 23. The fluorometric device according to claim 20, wherein said means for relatively moving said samples while allowing the same to form a circular orbit on said measuring surface is such that it rotationally moves a detector.

10 24. The fluorometric device according to claim 19, comprising means for varying the spacing between said excitation light illumination position and said light detecting portion, with which the period of time
15 from the excitation light illumination to the light detection is properly adjustable.

20 25. The fluorometric device according to claim 19, comprising means for varying the moving speed of the samples, with which the period of time from the excitation light illumination to the light detection is properly adjustable.

25 26. A method for measuring fluorescence emitted from samples on a measuring surface of a substrate by illuminating said samples with excitation light, characterized in that

said samples on the measuring surface of said substrate are moved after being illuminated with said excitation light and the measurements are made of the fluorescence emitted from said samples at the place
5 where they have been moved.

27. A fluorometric device comprising an excitation light illumination portion where samples on a measuring surface of a substrate are illuminated with
10 excitation light and a light detecting portion where measurements of the fluorescence emitted from said samples is performed, further comprising means for moving said samples on said measuring surface of said substrate from said excitation light illumination
15 portion to said light detecting portion, the measurements being made of the fluorescence emitted from said samples at the place where they have been moved.